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Case Report

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### *Trichophyton schoenleinii*: An Unusual Cause of *Tinea corporis*

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#### ABSTRACT

*Trichophyton schoenleinii* is transmitted by contact between humans and is an example of anthropophilic dermatophyte. *T.schoenleinii* is a most common cause of favic type of tinea capitis followed by onychomycosis. Almost complete disappearance of many anthropophilic dermatophytes including *Trichophyton schoenleinii* post Second World War due to the improved life style and hygiene. The main objective of this case report is to present *Trichophyton schoenleinii* an unusual cause of *Tinea corporis* in a patient residing in a silk city of Kancheepuram.

**Keywords:** *Trichophyton schoenleinii*, *Tinea corporis*, anthropophilic dermatophytes, Silk city of Kancheepuram.

#### INTRODUCTION

*Tinea corporis* constitute frequent fungal infections seen in dermatological practice worldwide. This is a disease of glabrous or non-hairy skin of the body to the exclusion of the palms, soles and groins. It is characterized by erythematous, scaly, annular, sharply marginated single lesion with raised borders which may be single, multiple or confluent. There is a partial central clearing with few pustules may be present along with the border, it is also known as tinea glabrata circinata (1). It is most common type of dermatophytosis in India caused by *Trichophyton rubrum* and other *Trichophyton* species like *T.mentagrophytes*, *T.tonsurans* and *Microsporum*

*canis* (1,2). The prevalence of *Tinea corporis* varies widely, it is more frequent in hot and humid tropical areas (1,2,3). Till now, only a few cases of *Tinea corporis* caused by *T.schoenleinii* have been reported, one among that was *Tinea corporis* bullosa caused by *T.schoenleinii* reported by Mihai M et al from Romania (3). The objective of this case report is to present an unusual cause of *Tinea corporis* by *T. schoenleinii* in a patient residing in a silk city of Kancheepuram.

#### CASE DESCRIPTION

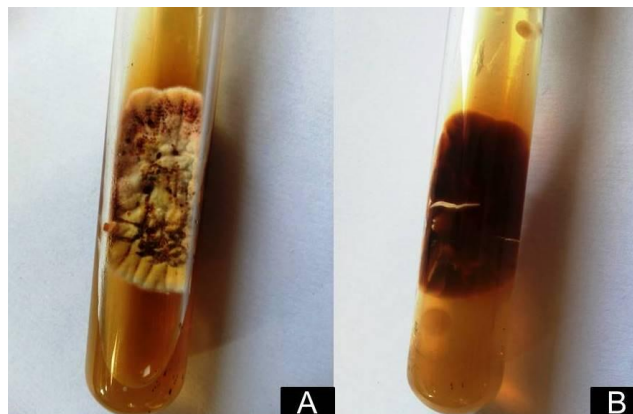
A 21 year old male presented to dermatology OPD with two plaque like lesion with raised borders over the abdomen for about two weeks. He was a farmer

and does carpentry work as part time. There was no history of contact with infected persons and pets. There was no evidence of dermatophytoses anywhere else on the body. The patient was immunocompetent, non-diabetic and not on immunosuppressive drugs. On clinical examination, he was found to have erythematous, scaly, annular, sharply marginated two lesions with raised borders over the abdomen (Fig. 1). The microscopic examination of skin scrapping after treatment with 10% KOH revealed the presence of septate hyaline hyphae. The material was cultured in Sabouraud dextrose agar (SDA) slant tubes with and without cycloheximide. SDA without cycloheximide grew smooth, waxy white colonies initially and matures to velvety, brownish colonies with characteristic break in the medium and brown reverse pigment after about 7 days (Fig. 2). However, there was no growth on SDA with cycloheximide and

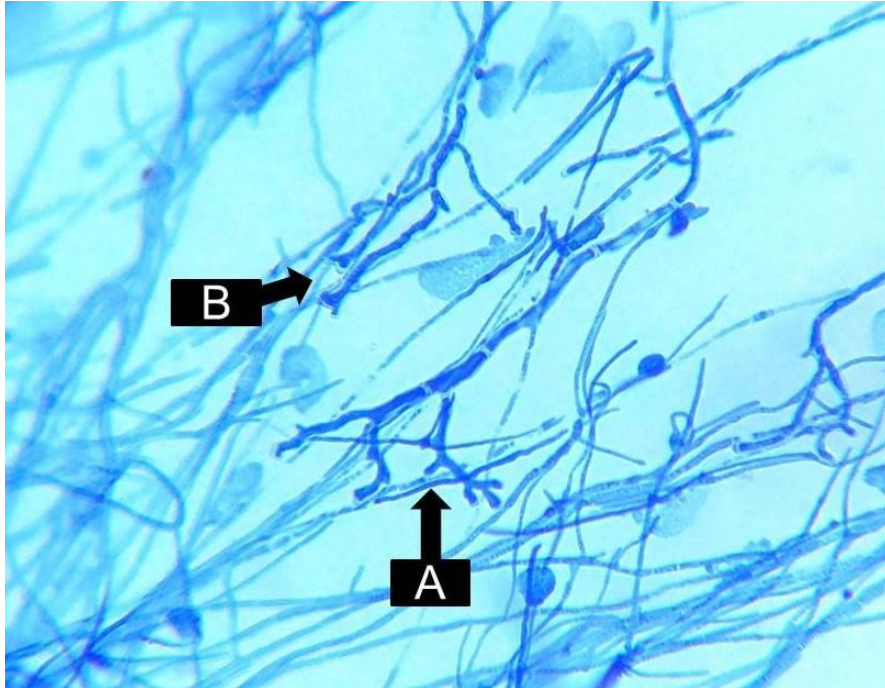
urease is hydrolysed. Lactophenol cotton blue (LCB) mount showed hyphae tend to become knobby and antler (deer horn) like or favic chandelier appearance at the terminal ends (Fig. 3) and numerous chlamydoconidia (Fig. 4) seen. The fungus was identified as *Trichophyton schoenleinii* with the help of cultural characteristics and the typical microscopic features antler (deer horn) like or favic chandelier appearance of hyphae on LCB mounts. The patient was put on oral fluconazole 150 mg weekly one tablet for 6 weeks and topical 1% terbinafine cream twice daily and tablet cetirizine 10 mg one tablet at night for 10 days. He was assessed for therapeutic success after 4 weeks and had shown significant improvement. Fluconazole and topical terbinafine was discontinued after 6 weeks and the lesions showed complete resolution in the next follow up.



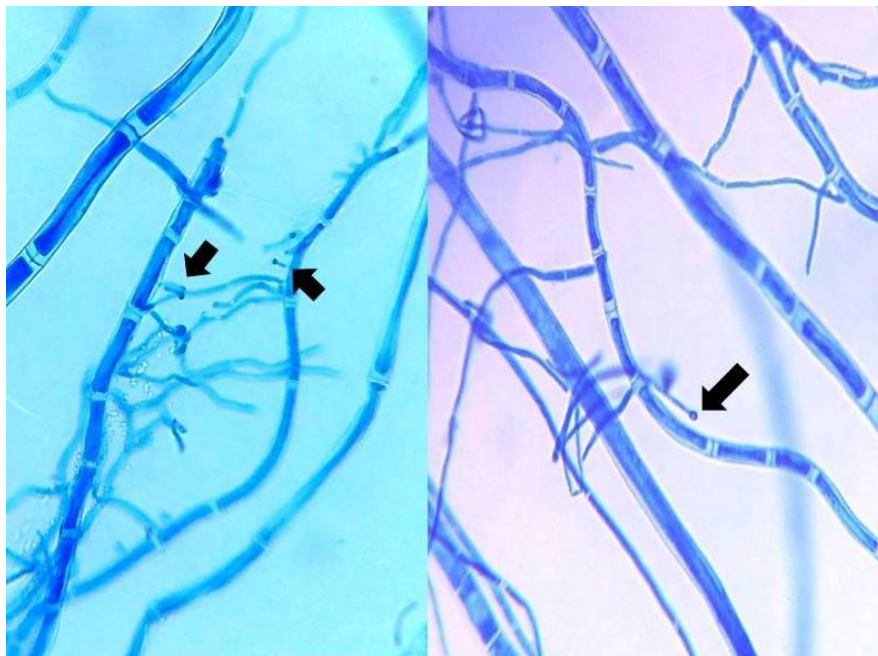
**Fig 1:** *Tinea corporis* over abdomen showing erythematous scaly lesions, annular, sharply marginated plaques with raised border and central clearing.



**Fig 2:A-** Sabouraud Dextrose agar showing smooth, waxy white colonies initially and matures to, velvety, brownish colonies (left); **B-** Sabouraud Dextrose agar showing a characteristic break in the medium and brown reverse pigment (right).



**Fig 3:**A-Lactophenol cotton blue (LCB) mount showed hyphae tend to become knobby and antler (deer horn) like or favic chandelier appearance at the terminal ends; B- Showing dichotomically broken hyphae by 40X magnification.



**Fig 4:** Black arrow mark representing the chlamydoconidia (left and right) by 40X magnification.

## DISCUSSION

*Tinea corporis* is disease of glabrous or non-hairy skin of body with the exclusion of the palms, soles and groins. It is characterized by erythematous scaly lesions, annular, sharply margined plaques with

raised border which may be single, multiple or confluent. There is partial central clearing with few pustules may be present along with border, it is also known as tinea glabrata circinata (1,2). *Tinea corporis* when infected by zoophilic organism can occur in any

part of the body, but is seen commonly on exposed areas of the skin and when infected by an anthropophilic organism affects the occluded areas of the skin. Fungi thrive in warm, moist areas and the predisposing factors are sweating, minor injuries and poor hygiene. *Tinea corporis* can spread easily to other people through direct contact with an area of ringworm on someone's body, or through clothing, combs and pool surfaces. The fungi can also be spread by pets (cats are common carriers) (2,3,4,5). *T.schoenleinii* classically causes favic type of tinea capitis, presents with yellowish cup shaped crusts called scutula. This type of yellow favus had been reported by many in India as well as from other countries. The black dot variant rare type of tinea capitis caused by *T. schoenleinii* had been reported by Ghadgepatil SS et al from the Pune and a case of onychomycosis caused by *T.schoenleinii* was reported by Maccura AB et al from Poland. Till now, only a few cases of *Tinea corporis* caused by *T.schoenleinii* have been reported, one among that was *Tinea*

*corporis* bullosa due to *T.schoenleinii* reported by Mihai M et al from Romania (3,6,7,8). Even though *T.schoenleinii* infection is a rare dermatophyte in India, still a few endemic pockets exist in states of Kashmir valley, Punjab and Rajasthan (9).

## CONCLUSION

- The main aim of this case report is to highlight that *Trichophyton schoenleinii* is an important causative agent of *Tinea corporis* in India.
- Henceforth proper clinical evaluation, categorization of Trichophyton species is very important by culture and microscopy.
- It is very important to identify dermatophytes to species level and to perform epidemiological studies.
- The clinical study about dermatophytes in the rural populations is carried out by the Dermatology department in our institution.

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